

***Remarks***

Reconsideration of this Application is respectfully requested. Upon entry of the foregoing amendment, claims 1-52, 54 and 56 are pending in the application, with 1, 9, and 18 being the independent claims. Based on the above amendment and the following remarks, Applicants respectfully request that the Examiner reconsider all outstanding objections and rejections and that they be withdrawn.

***Rejections under 35 U.S.C. § 103***

On page two of the Office Action, claims 1-42, 52, 54, and 56 are rejected under 35 U.S.C. § 103(a), as being allegedly unpatentable over Azadet *et al.* (EP 1006697) in view of Winters *et al.* (Electrical Signal Processing Techniques in Long-Haul, Fiber-Optic Systems, AT&T Bell Laboratories), and further in view of Reznic (U.S. Pat. 6,842,458).

Neither Azadet, Winters, nor Reznic, alone or in combination, teach, suggest, or disclose all features of pending independent claims 1, 9, and 18. For example, claim 1 recites in part, "controlling *N analog-to-digital converter* ("ADC") paths with the *N* sampling signals to sample the electrical signal at the phases, to produce samples, [and] performing at least one *M-path parallel digital process* on the samples, *wherein M is greater than N.*" (See claim 1, *emphasis added*). Independent claims 9 and 18 recite similar features.

On page 4, the Office Action admits that Azadet in view of Winters does not expressly disclose the claimed feature of  $M > N$ . Reznic does not overcome the deficiencies of Azadet in view of Winters. Specifically, Reznic does not teach, suggest,

or disclose a relationship between the number of ADC paths (N) to the number of parallel digital process paths (M) where  $M > N$ , as is recited in claims 1, 9, and 18. In Reznics's FIG. 2, the number of digital paths (e.g. DSP 214, "M") is *less than* the number of ADCs (e.g. codecs 212, "N"), so that Reznic actually discloses  $M < N$ , which teaches away from Applicant's claimed invention having  $M > N$ . This is further shown, where two codecs 212 ("N") feed a single DSP 214 ("M"), so  $N > M$  in Reznic.

Further, Reznic does not teach, suggest, or disclose  $M > N$  in column 2, lines 51-53 as asserted in the Response to Arguments on page 16 of the Office Action. The cited section reads "[t]he outputs from multiple ones of the codecs 212 are processed by one of multiple digital signal processors ("DSPs") 214 included in the EU unit 200." *See*, Reznic, col. 2, lns. 51-53. Thus, the statement in Reznic that "*multiple ones* of the codecs 212" describes *N greater than or equal to two*. *Id.* (Emphasis added). The cited section then goes on to state that "...are processed by *one* of multiple digital signal processors", which describes *M=1*. *Id.* (Emphasis added). Thus, with this statement, Reznic actually discloses  $M < N$ , which also teaches away from Applicant's claimed invention having  $M > N$ . Thus, Reznic does not overcome the deficiencies of Azadet in view of Winters. Again, this is clearly shown in FIG. 2, where two codecs 212 ("N") feed a single DSP 216 ("M"), so that  $N > M$  in Reznic. In contrast, Applicant claims the opposite scenario, where  $M > N$ .

Accordingly, the combination of Azadet, Winters, and Reznic does not teach each and every feature of independent claims 1, 9, and 18 and therefore does not meet the requirements for *prima facie* obviousness. (*See*, MPEP 2143). Thus, Applicants

respectfully request this rejection be removed and that the independent claims 1, 9, and 18 and their respective dependent claims be passed to allowance.

Additionally, on page fifteen of the Office Action, claims 43-51 stand rejected under 35 U.S.C. § 103(a), as being allegedly unpatentable over Azadet in view of Winters and Reznic, and further in view of Bingham (Multicarrier Modulation for Data Transmission: An Idea Whose Time Has Come, IEEE Communication Magazine, May 1990).

Claims 43-51 depend from independent claims 1, 9, and 18. As discussed above, neither Azadet, Winters, nor Reznic teach, suggest, or disclose  $M > N$ , as recited in independent claims 1, 9, and 18. Bingham does not cure the deficiencies of Azadet, Winters, and Reznic. Claims 43-51 are thus patentable for at least the reasons provided above with respect to claims 1, 9, and 18, and further in view of the additional features recited therein. Reconsideration and withdrawal of the rejection is requested.

If the rejection is maintained using the cited references mentioned above, Applicants request that each of the distinctions recited above be addressed with specificity. Accordingly, Applicants respectfully request all rejections be removed and that claims 1-52, 54, and 56 be passed to allowance.

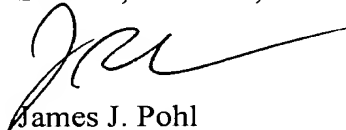
***Conclusion***

All of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding rejections and that they be withdrawn. Applicants believe that a full and complete reply has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

Prompt and favorable consideration of this Amendment and Reply is respectfully requested.

Respectfully submitted,

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